

Version (complete set of claims) with markings showing changes made

In the claims:

Claims 1, 10, and 21 have been amended as follows:

New Claims 42-49 have been added as follows:

1. (Currently Amended) A device for monitoring ~~an oxidizing vapor or~~
plasma comprising:
at least one layer of polymer, having incorporated therein
 - a) an indicator capable of undergoing at least one color change
 - b) an activator for said indicator wherein said activator, when contacted with
said ~~an oxidizing vapor or~~ plasma, undergoes a reaction wherein the product of
said reaction causes said indicator to undergo said color change.
2. (Original) The device of claim 1 wherein the said indicator comprises at least
one member of the group consisting of pigments, dyes, precursors of said dyes,
and mixtures of any of the foregoing group members.
3. (Original) The device of claim 1 wherein the said indicator is a pH-sensitive
sensitive dye.
4. (Original) The device of claim 1 wherein the said indicator is phenol red, m-
cresol purple, pararosaniline or mixtures thereof.
5. (Original) The device of claim 1 where the said indicator undergoes
halogenation or oxidation.
6. (Original) The device of claim 1 wherein the said indicator undergoes a
yellow-to-blue, red-to-yellow or red-to-blue color change.

7. (Original) The device of claim 1 wherein said polymer is soluble in an organic solvent.

8. (Original) The device of claim 1 wherein said polymer is soluble in water or is water dispersible.

9. (Original) The device of claim 8 wherein said polymer is a water soluble or water dispersible homopolymer, or a copolymer or a mixture thereof.

10. (Currently Amended) The device of Claim 1 wherein said polymer is a polymer of styrene, acrylate, acrylic acid, acrylamide, vinyl acetate, vinyl alcohol, vinyl chloride, styrene, polyurethanes, cellulose nitrate, carboxymethyl cellulose or a mixture thereof.

11. (Original) The device of claim 10 wherein said polymer is a homopolymer, or a copolymer or a mixture thereof.

12. (Original) The device of claim 8 wherein said polymer is a polymer of styrene, acrylate, acrylic acid, acrylamide, vinyl acetate, vinyl alcohol, vinyl chloride, styrene, polyurethanes, cellulose nitrate, carboxymethyl cellulose or a mixture thereof.

13. (Original) The device of claim 1 wherein the polymer is an acrylate polymer.

14. (Original) The device of claim 1 wherein the polymer is cellulose nitrate or carboxymethylcellulose.

15. (Original) The device of claim 1 wherein the reaction product of said activator and said plasma is a halo-acid.

16. (Original) The device of claim 1 wherein the said activator is a salt.
17. (Original) The device of Claim 1 wherein said activator a halide.
18. (Original) The device of Claim 1 wherein said activator is a bromide.
19. (Original) The device of claim 1 wherein the said activator is a bromide of alkali metal or quaternary amine.
20. (Original) The device of claim 1 wherein said activator is tetrabutylammonium bromide or tetraethylammonium bromide or mixture thereof.
21. (Currently Amended) The device of claim 1 wherein said activator is a salt of an amine and an organic or inorganic acid ~~acid~~.
22. (Original) The device of claim 1 wherein said activator is a thiocyanate.
23. (Original) The device of claim 1 wherein said activator is sodium thiocyanate.
24. (Original) The device of claim 1 additionally comprising an additive to control the diffusion of plasma gases.
25. (Original) The device of claim 1 additionally comprising a crosslinking agent or a plasticizer to control the diffusion of plasma gases.
26. (Original) The device of claim 1 additionally comprising a zinc compound or a polyaziridine to control the diffusion of plasma gases.
27. (Original) The device of claim 1 comprising two layers.
28. (Original) The device of claim 1 additionally comprising a polymeric top layer.

29. (Original) The device of claim 1 additionally comprising a wedge shaped polymeric top layer.

30. (Original) The process of making a device of claim 1 which comprises dissolving or dispersing the components thereof in a solvent therefor, applying the thus formed solution or dispersate to a substrate and permitting the solvent to evaporate.

31. (Original) The process of claim 30 wherein the substrate is a container for an item to be sterilized.

32. (Original) The process of claim 30 wherein the substrate is a plastic film, paper or metal.

33. (Original) The process of claim 30 wherein the substrate is polyester film or spun bonded polyolefins.

34. (Original) The process of claim 30 wherein the solution is an ink formulation.

35. (Original) The process of claim 30 wherein the solution is an aqueous ink formulation.

36. (Original) The process of claim 35 said ink formulation comprises an acrylate polymer.

37. (Original) A process of using a device of claim 1 for monitoring sterilization of materials comprising the steps of

a) affixing the device to said materials or containers containing same

- b) carrying out the process of sterilization including the step of introducing the plasma into a vessel containing said materials or containers therefore and
- c) observing the presence of a color change of said device.

38. (Original) The process of claim 37 wherein the plasma is derived from a member selected from the group consisting of hydrogen peroxide, perchloric acid and oxygen.

39. (Original) The process of claim 37 wherein the plasma is that derived from hydrogen peroxide.

40. (Original) A process of using the device of claim 1 for monitoring an oxidizing vapor comprising the steps of

- a) exposing the device to an oxidizing vapor,
- b) observing the presence of color change in the device.

41. (Original) The process of claim 40, wherein the oxidizing vapor is ozone or hydrogen peroxide.

42. (New) A device for monitoring hydrogen peroxide plasma comprising:
at least one layer of polymer, having incorporated therein

- a) an indicator capable of undergoing at least one color change
an activator for said indicator wherein said activator, when contacted with said plasma, undergoes a reaction wherein the product of said reaction causes said indicator to undergo said color change.

43. (New) The device of claim 42 wherein said polymer is soluble in water or is water dispersible.

44. (New) The device of claim 43 wherein said polymer is a water soluble or water dispersible homopolymer, or a copolymer or a mixture thereof.

45. (New) The device of Claim 43 wherein said polymer is a polymer of acrylate, acrylic acid, acrylamide, vinyl acetate, vinyl alcohol, vinyl chloride, styrene, polyurethanes, cellulose nitrate, carboxymethyl cellulose or a mixture thereof.

46. (New) The device of claim 45 wherein the polymer is an acrylate polymer.

47. (New) The device of claim 45 wherein the polymer is cellulose nitrate or carboxymethylcellulose.

48. (New) A process of making a device of claim 42 which comprises dissolving or dispersing the components thereof in a solvent therefor, applying the thus formed solution or dispersate to a substrate and permitting the solvent to evaporate.

49. (New) A process of using a device of claim 42 for monitoring sterilization of materials comprising the steps of

- a) affixing the device to said materials or containers containing same
- b) carrying out the process of sterilization including the step of introducing hydrogen peroxide plasma into a vessel containing said materials or containers therefore and
- c) observing the presence of a color change of said device.